WORKING DRAFT:
Performance Reference Model

The Office of Management and Budget (OMB) Federal Enterprise Architecture-Program Management Office (FEA-PMO) is releasing this working draft of the Performance Reference Model (PRM) to:

- Describe the Performance Reference Model (PRM);
- Answer key questions about the draft PRM; and
- Solicit comments on the draft PRM and its proposed implementation.

The PRM is one of five "reference models" that will comprise the Federal Enterprise Architecture (FEA) reference model framework. This framework is critical to improving government performance as envisioned by the E-Government Act of 2002 and President's Management Agenda (PMA) and meeting the challenges set forth in the President's FY 2004 Budget.

PRM "At-a-Glance"

WHAT IS THE PRM?
- A standardized performance measurement framework to characterize IT performance in a common manner.
- One of five FEA "reference models," the PRM is designed to enhance available performance information, provide a clear "line of sight" from IT inputs to outcomes, and identify improvement opportunities across organizational boundaries.

HOW WILL THE PRM BE USED?
- Agencies can use the PRM to select standard performance indicators—which may be new or coincide with those already in use—which can then be tailored or "operationalized" to the specific environment. Where appropriate, common indicators can be used across organizational boundaries.
- The PRM is designed to be a flexible resource that agencies can use to build from their existing performance measurements, complementing other areas such as security and privacy or risk.
- The PRM will be integrated into existing IT budget processes and timeframes, including the Exhibit 300 required by OMB Circular A-11 for major IT initiatives.
- The PRM is consistent with and mutually reinforces existing management improvement efforts such as GPRA, Budget and Performance Integration, and the PART.

WHO WILL USE THE PRM?
- OMB, CIOs, CFOs, and Program or Project Managers seeking to meet IT performance requirements,

I. Why is a PRM Necessary?

Over the last decade, agencies have made progress in the areas of performance management and measurement. Nevertheless, significant work remains if agencies are to meet existing information technology (IT) performance requirements and make the needed IT performance improvements.[1] Tables 1 and 2 below highlight how the PRM is a tool and resource to help agencies meet the legislative and OMB requirements for IT performance and make the performance improvements still needed.

[1] "Budget of the United States Government, Fiscal Year 2004," U.S. Office of Management and Budget. February 3, 2003; and "Urgent Business for America: Revitalizing the Federal Government for the 21st Century," The National Commission on the Public Service. January 2003.

TABLE 1: THE PRM CAN HELP AGENCIES MEET EXISTING REQUIREMENTS

Existing Requirement		PRM
E-Government Act of 2002	Collaborate and develop consistent IT performance measures. Measure the performance of E-Government initiatives.	✔
Clinger-Cohen Act of 1996	Make technology investment decisions based on contribution to program performance	✔
Government Performance and Results Act of 1993	Plan and report progress towards outputs and outcomes	✔
Chief Financial Officers Act of 1990 and other related Acts	Provide timely, reliable, useful, and consistent financial information to improve decision-making	✔
President's Management Agenda (Budget and Performance Integration and Expanding E-Government)	Integrate planning and managing for performance into budget justification and execution. Improve performance through technology.	✔

TABLE 2: THE PRM CAN CONTRIBUTE TO NEEDED IMPROVEMENTS

Improvement Needed	How PRM Can Contribute to Improvement
Overall weakness in performance management and measurement[2]	Progress towards PRM indicators can provide enhanced IT performance information to support management decision-making.
Limited articulation of how inputs contribute to outcomes[3]	The PRM captures the critical cause and effect relationships from IT inputs to outcomes.
Limited collaboration around functional or crosscutting programs[4]	Where needed, the PRM can help identify common or similar IT performance indicators to drive improvements across traditional organizational boundaries (which may span the federal, state, local, or private sectors).
Program Assessment Rating Tool (PART) rates 50 percent of programs "results not demonstrated" and 20 percent "adequate" or "ineffective"[5]	Progress towards PRM indicators can provide enhanced performance information to include in PART evaluations. PART evaluations can guide the improvement targets set using the PRM—particularly in lower-scoring programs.
More than half of major IT systems on OMB's "At-Risk List"[6]	The PRM can be used to identify IT performance indicators that show specifically how a technology investment contributes to business outputs, and ultimately, outcomes.

More detailed information about how the PRM can help agencies meet these requirements and make needed improvements is provided in Appendix B.

[2] "Government at the Brink," Committee on Governmental Affairs, U.S. Senate. June 2001.

[3] "Major Management Challenges and Program Risks: A Governmentwide Perspective," U.S. General Accounting Office. January 2003.

[4] "Results-Oriented Management: Agency Crosscutting Actions and Plans in Border Control, Flood Mitigation, and Insurance, Wetlands, and Wildland Fire Management," U.S. General Accounting Office. December 20, 2002.

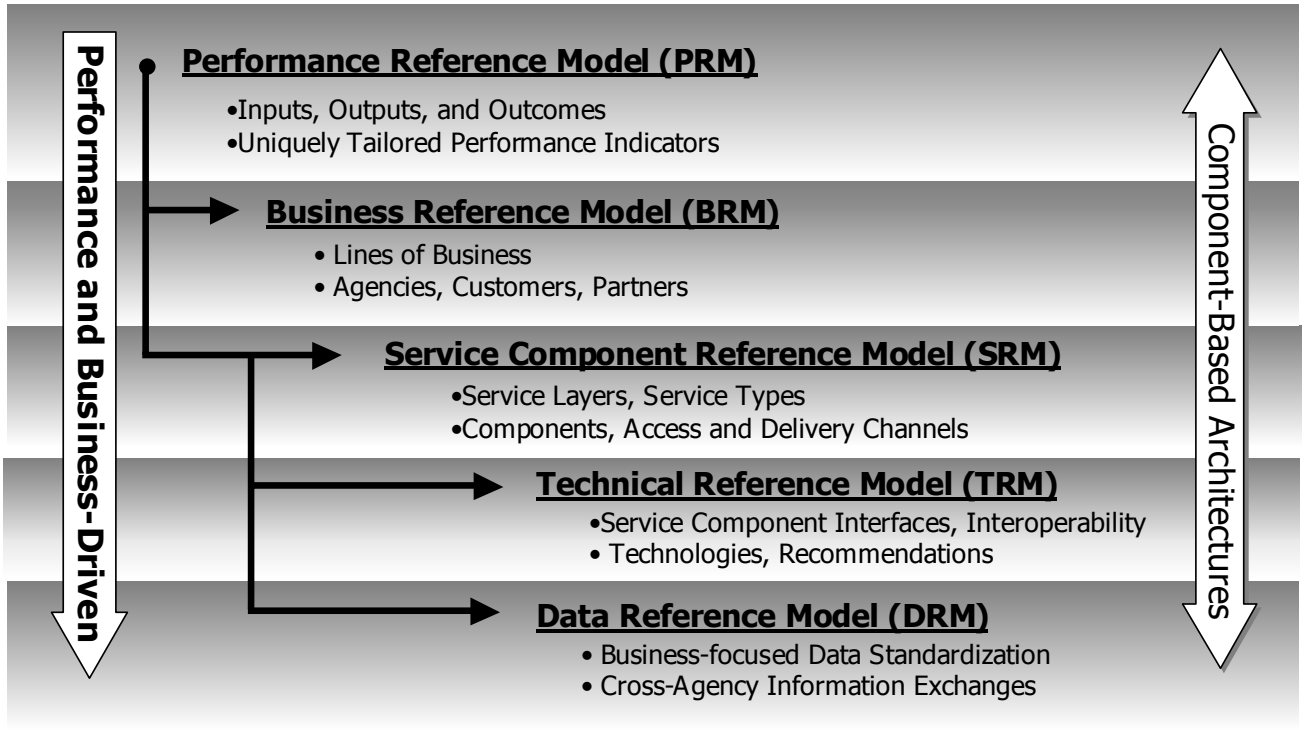
[5] "Analytical Perspectives, Budget of the United States Government, Fiscal Year 2004," U.S. Office of Management and Budget. February 3, 2003.

[6] "Budget of the United States Government, Fiscal Year 2004," U.S. Office of Management and Budget. February 3, 2003.

II. What is the FEA Reference Model Framework?

To facilitate the federal government's transformation towards being more citizen-centered and results-oriented, the FEA-PMO is developing the FEA. The FEA is being constructed through five interrelated "reference models" designed to identify collaboration opportunities both within and across traditional organizational boundaries. On July 24, 2002, the FEA-PMO released version 1.0 of the Business Reference Model (BRM), which describes the federal government's Lines of Business and its services to the citizen – independent of the agencies, bureaus, and offices that perform them.[7] Version 2.0 of the BRM will be available this spring. The remaining reference models in the FEA framework, including the PRM, will be available in Version 1.0 this spring as well. The FEA is shown in Figure 1 below.

FIGURE 1: FEA REFERENCE MODEL FRAMEWORK



More information on each of these reference models and their integration points with the PRM is included in Appendix C.

III. What is the Performance Reference Model?

More than ever, citizens are demanding more efficient and effective government. Meeting these demands requires agencies to use IT to improve performance. This may also require agencies to collaborate across traditional organizational boundaries and be partners in a performance-driven environment. The FEA-PMO is proposing the PRM as a tool to help agencies use IT to achieve this improvement and collaborate where necessary.

The PRM is a "reference model" or a standardized performance measurement framework to characterize IT performance in a common manner where appropriate. The draft PRM has three main purposes:

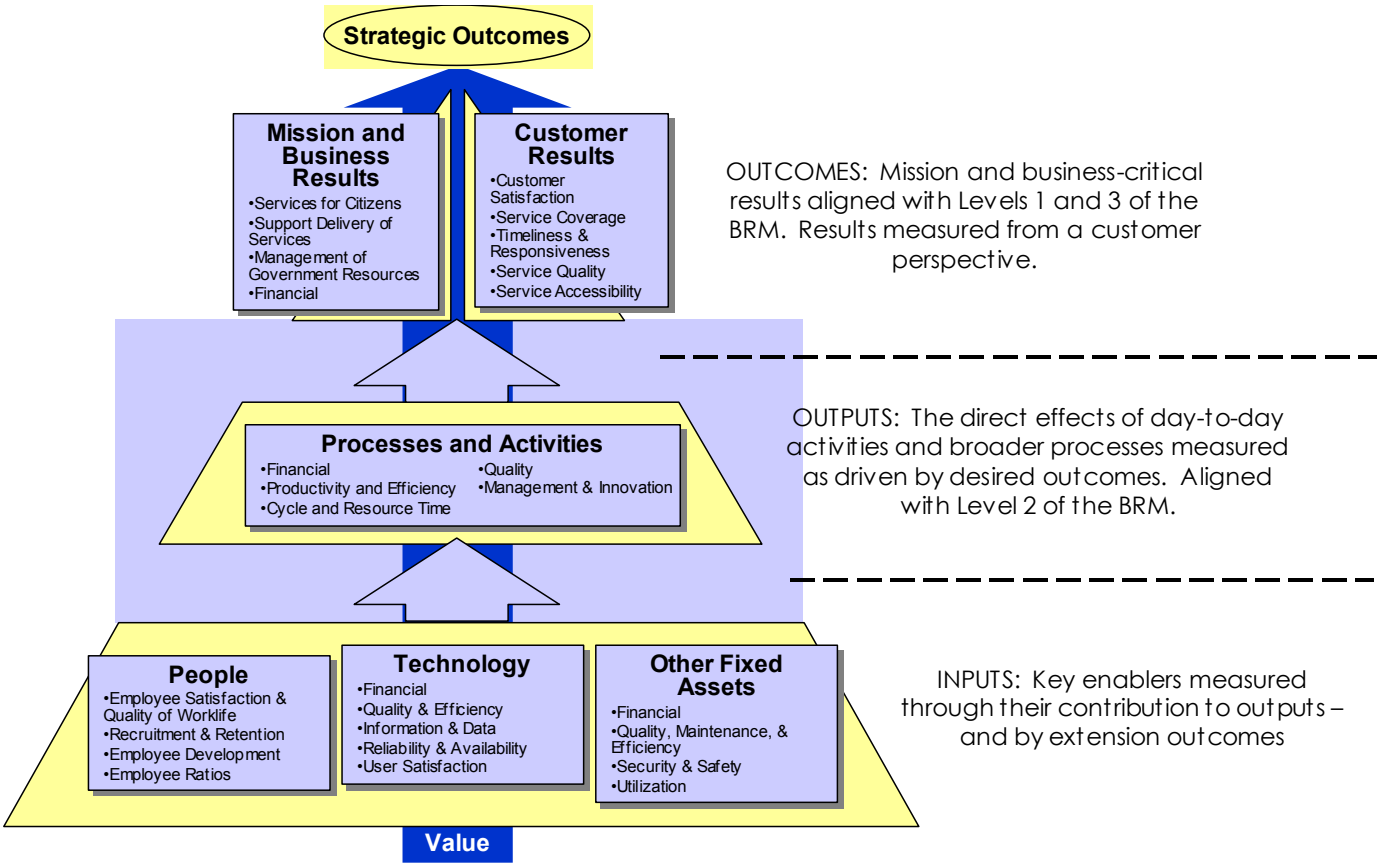
[7] "The Business Reference Model Version 1.0," Federal Enterprise Architecture Program Management Office. July 24, 2002.

1. Help produce enhanced IT performance information to improve strategic and daily decision-making;
2. Improve the alignment—and better articulate the contribution of— IT inputs to outputs and outcomes, thereby creating a clear "line of sight" to desired results; and
3. Identify performance improvement opportunities that span traditional organizational structures and boundaries.

The draft PRM attempts to leverage the best of existing approaches to performance measurement in the public and private sectors, including the Balanced Scorecard, Baldrige Criteria, Value Measurement Methodology, program logic models, the value chain, and the theory of constraints. In addition, the draft PRM was informed by what agencies are currently measuring through GPRA, Enterprise Architecture, and IT Capital Planning and Investment Control.

Figure 2 below provides a graphical representation of the draft Performance Reference Model.

FIGURE 2: DRAFT PERFORMANCE REFERENCE MODEL (PRM)



The draft PRM is structured around Measurement Areas, Measurement Categories, and Indicators.

- Measurement Areas – The high-level organizing framework of the PRM that captures aspects of performance at the input, output, and outcomes levels. The draft PRM includes six measurement areas: Mission and Business Results, Customer Results, Processes and Activities, People, Technology, and Other Fixed Assets.
    - Measurement Categories – Groupings within each measurement area that describe the attribute or characteristic to be measured. For example, the Mission and Business Results Measurement Area includes four Measurement Categories: Services for

Citizens, Support Delivery of Services, Management of Government Resources, and Financial.

- Indicators – The specific measures, for example # and/or % of customers satisfied, which can be tailored or "operationalized" for a specific BRM Line of Business or Sub-function, agency, program, or IT initiative.

All of the draft PRM Measurement Areas, Measurement Categories, and Indicators are shown in Appendix A.

The draft PRM structure is designed to provide a standardized measurement hierarchy and framework that can be uniquely tailored or "operationalized" by decision-makers for a specific environment. This is perhaps best demonstrated through examples. Figures 3 and 4 below show how the PRM could be tailored or "operationalized" by decision-makers to the Resource Training and Development Sub-function in the Human Resources Line of Business and IRS Free Filing, one of the 24 Presidential E-Government Initiatives.

Figure 3: Example PRM for Resource Training and Development Sub-function

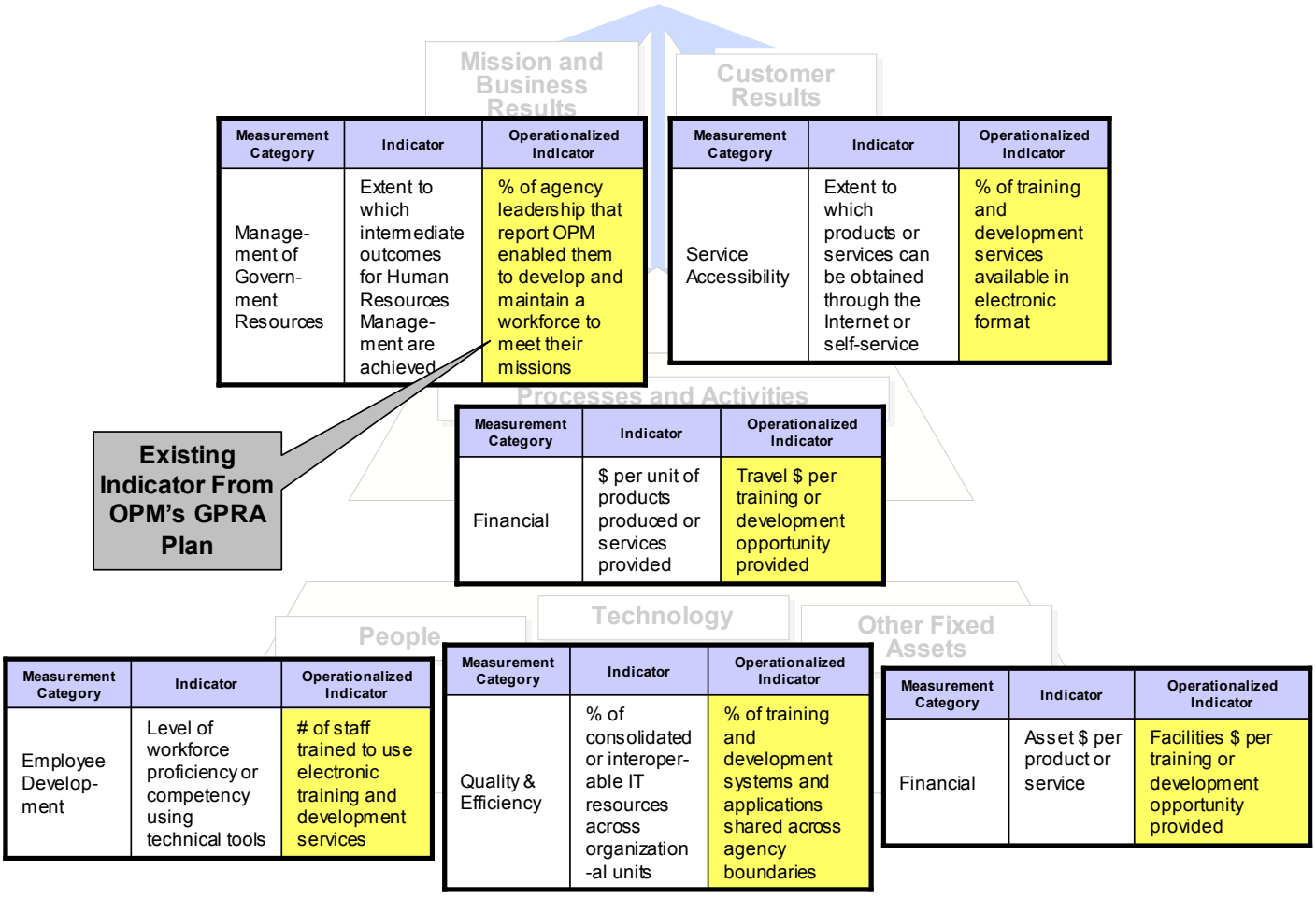
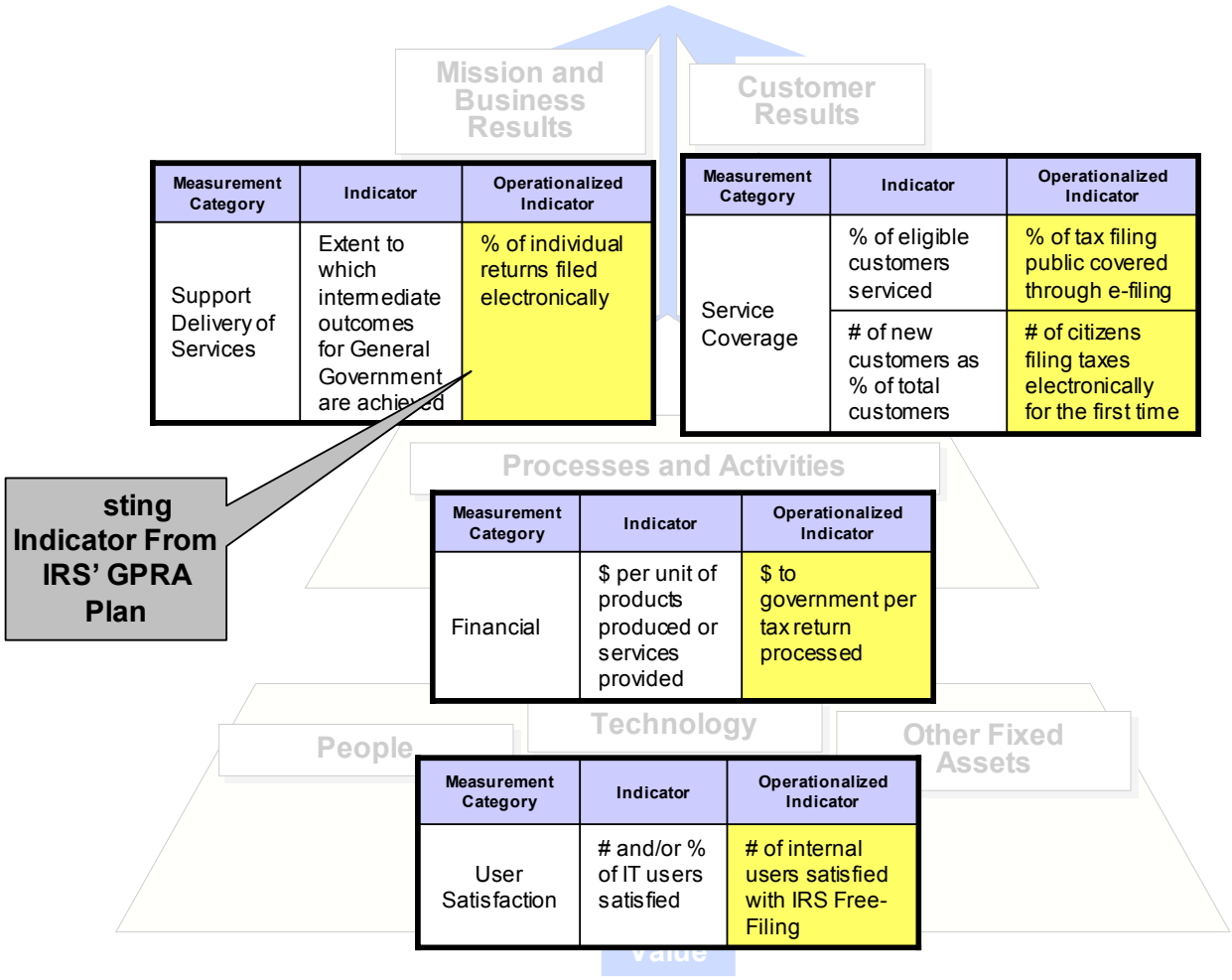


Figure 4: Example PRM for IRS Free Filing E-Gov Initiative

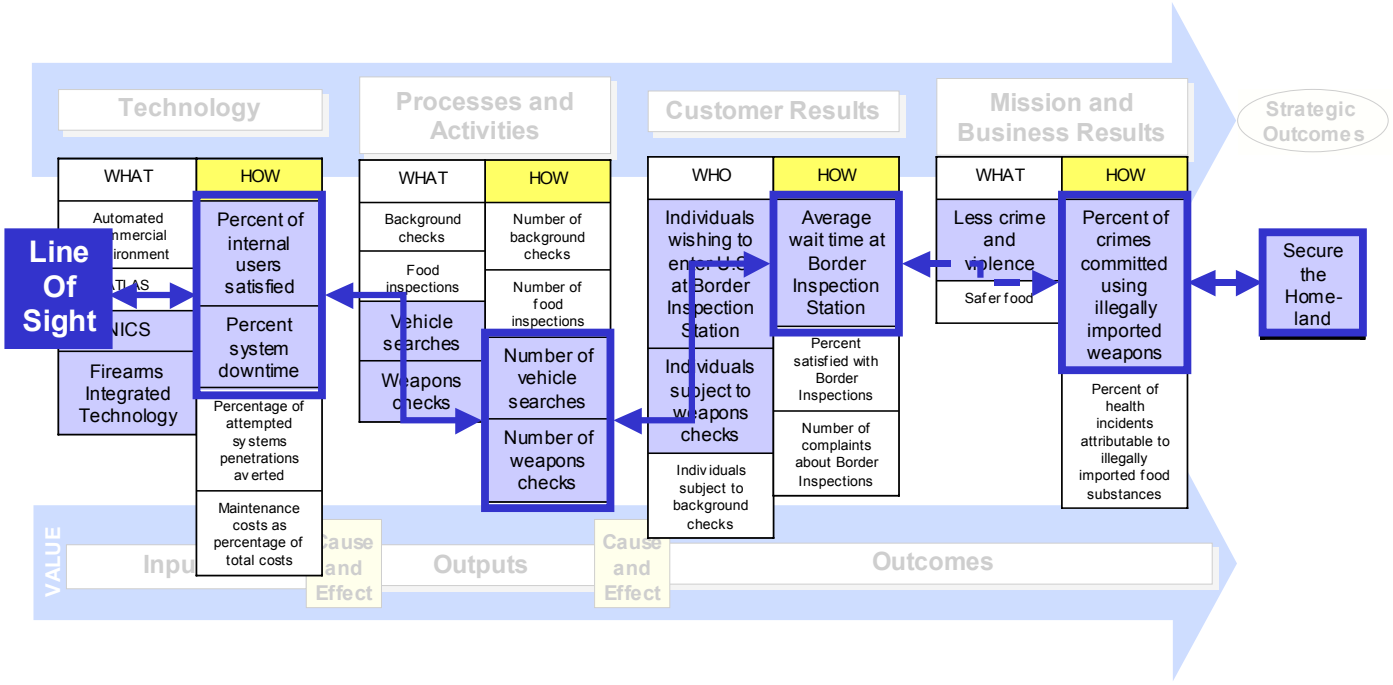


Note that both examples include a manageable number of indicators that can be used to characterize success and drive progress towards it. Though the PRM includes many indicators, its value is not in the sheer number of indicators it includes. Rather, its value is realized when used to identify a critical few indicators that can provide information for decision-making.[8] Also note that in both examples, the operationalized Mission and Business Results indicator is simply the existing outcome-oriented indicator in GPRA Strategic and Annual Plans for the relevant agencies.

The PRM structure is also designed to clearly articulate the cause and affect relationship between IT inputs, process outputs, and ultimately business and customer outcomes. As Figure 5 shows below, the draft PRM captures this "Line of Sight" and reflects how value is created as inputs (such as Technology in the example below) are used to create outputs (through Processes and Activities), which in turn impact outcomes (such as Mission and Business and Customer Results). Guiding the entire PRM are "Strategic Outcomes," which represent broad, policy priorities that drive the direction of government (such as to Secure the Homeland).

[8] PRM Version 1.0 will provide additional guidance on choosing an appropriate set of PRM indicators.

Figure 5: Example "Line of Sight" from Technology to Outputs, Then Outcomes Through the PRM



IV. How Will the PRM Be Used?

The reference models of the FEA collectively lay a strong foundation to transform government operations. However, a phased approach is required while each of the reference models is in development and agencies align with them. Consequently, the PRM is currently being tested in the following areas identified as priorities in the President's FY 2004 Budget:

- The Public Health Monitoring; Monetary Benefits; Data and Statistics Development; Criminal Investigation and Surveillance; Human Resources; and Financial Management Lines of Business and Sub-functions in the BRM;[9] and
- The 24 Presidential E-Government Initiatives.

The agencies that align with the Priority Lines of Business and the 24 Presidential E-Government Initiatives are listed in Appendix D.

Agencies will be expected for the first time to use the PRM for all their major IT investments during the FY 2005 budget formulation process. The extent of collaboration required by agencies to identify similar indicators depends upon whether a major IT investment is one in which:

1. One agency has the lead and the initiative can be implemented through the normal agency-specific budget process;
2. More than one agency is involved and the initiative may require joint ownership and funding; or
3. Initiatives are common to all agencies or rise to a level of major policy significance and require action from the PMC to be successful.

Initiatives where one agency has the lead may require limited or no collaboration across agency boundaries to identify PRM indicators. These would include initiatives such as an agency-specific infrastructure enhancement. On the other hand, initiatives that involve more

[9] Additional BRM Sub-functions may be chosen in subsequent fiscal years based on standardized criteria.

than one or all agencies will require some degree of collaboration to identify common PRM indicators. These would include some of the 24 Presidential E-Government initiatives such as E-Grants or E-Training and initiatives that align with BRM Lines of Business such as Human Resources or Financial Management. To facilitate this transformation, the FEA governance process calls for "Line of Business Owners" to be identified where significant collaboration is needed to improve performance.

The processes surrounding the PRM are as important as the PRM itself.[10] As with any sustained improvement effort, the PRM must be integrated into existing management and decision-making processes to be more than just a "paperwork exercise."[11] Consequently, the PRM will be incorporated into the Exhibit 300 in OMB Circular A-11 as appropriate and applied consistent with the existing IT budget cycle.

For the purposes of this working draft, the FEA-PMO is proposing that the steps to use the PRM would include:

- Determine "Line of Sight" to Results – Agencies will use the concepts of logic models and the value chain to identify the critical cause and affect relationships between the relevant IT and process outputs, then to customer and mission or business outcomes.
- Identify and Define PRM Indicators – Informed by the "Line of Sight," agencies will use the PRM to identify a critical few indicators. These indicators will then be tailored or "operationalized" to suit the specific IT initiative.
- Conduct Baseline Analyses - Within the context of the common PRM indicators chosen, a baseline analysis of current performance, constraints, and capabilities (e.g. processes, people, information and data, technology) could be conducted.
- Set Improvement Targets – Within the context of the baseline analysis and through benchmarking high-performers in the government and private sectors, improvement targets would be set.
- Explore Improvement Strategies – Possible strategies to achieve improvement targets such as coordinating, creating, or canceling processes or technology investments; sharing information and data; or retraining or recruiting people will be identified.
- Select and Propose Improvements – The scope and strategy for the improvement will be discussed through existing budget documents (e.g. Exhibit 300s and performance budget submissions) and processes.

Once these steps are complete, agencies will conduct further analysis and planning and implement improvements, then begin the iterative process of collecting and reporting performance information, and using the information to support strategic and daily decision-making within agencies, OMB, and the Congress.

The FEA-PMO will continue to work with the President's Management Council, key organizations such as the CIO and CFO Councils, agencies, Line of Business Owners, Portfolio Managers, and Managing Partners to further define this process. As this occurs, more detailed information on the use of the PRM and its integration with the existing planning and budgeting processes will be provided after comments are received on the draft PRM and PRM Version 1.0 is released later in spring 2003.

[10] Industry Advisory Council Enterprise Architecture Special Interest Group, January 7, 2003.

[11] "Management Reform: Elements of Successful Improvement Initiatives," U.S. General Accounting Office. October 15, 1999.

V. Who Will Use the PRM?

The transformation required to implement the PMA—and E-Government in particular—requires the PRM to be used by OMB, CIOs, CFOs, and perhaps most importantly Program and IT Project Managers. The PRM can help these users in their pursuit of performance improvement as shown in Table 3 below.

TABLE 3: HOW THE PRM HELPS ITS INTENDED USERS

	Enhanced Performance Information	Alignment and Clear "Line of Sight"	Identify Improvement Opportunities Across Boundaries
OMB	Additional information to include in budget decision-making activities	More detailed information about how proposed initiatives will contribute to outcomes	Standardized information to assess performance of programs and IT initiatives with common or similar missions
CIOs	Additional information to use in IT Capital Planning and Investment Control activities	More clarity about what IT initiatives to select and how they will/are contributing to results and key mission requirements	Standardized information to help identify IT collaboration opportunities within and outside the agency
CFOs	Additional information to use in GPRA and budget activities	Better articulation through GPRA of how budgetary resources and inputs contribute to outcomes	Standardized information to identify potential cost savings and performance improvements
Program/ Project Managers	Additional information to manage initiatives and demonstrate contribution to outcomes	Stronger justification of proposed initiatives and articulation of how initiatives contribute to outcomes	Standardized information to identify other programs or projects with similar missions for "best practice" consultation or other collaboration

VI. What Happens Next With the PRM?

Once the FEA-PMO receives comments on this Working Draft, planned next steps with the PRM include:

- Revise the draft PRM based on comments provided on this Working Draft;
- Release PRM Version 1.0, to include examples and suggested guidance on IT performance measurement and performance improvement;
- Incorporate the PRM into OMB Circular A-11 guidance as appropriate and conduct training;
- Analyze FY 2005 agency budget submissions provided to OMB in September to help identify performance improvement opportunities; and
- Continue to refine the PRM and its implementation through releasing PRM Version 2.0 and future iterations.

APPENDIX A:
Draft PRM Measurement Areas, Measurement Categories, and Indicators

This Appendix provides the Measurement Areas, Measurement Categories, and Indicators currently included in the draft PRM.

A.I. Mission and Business Results Measurement Area

Measurement Category	Indicator	Definition	Examples[12]
Services for Citizens	• Extent to which outcomes related to Defense and National Security[13] are achieved	• Outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Command and Control, Execute Joint Operations, and Support Joint Operations.	
	• Extent to which outcomes related to Homeland Security are achieved	• Outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Border and Transportation Security, Catastrophic Threat Defense, and Critical Infrastructure Protection.	•
	• Extent to which outcomes related to Intelligence Operations are achieved	• Outcome indicators identified through GPRA, PART assessments, or other frameworks that align with TBD.	•
	• Extent to which outcomes related to Law Enforcement are achieved	• Outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Criminal Apprehension, Criminal Investigation and Surveillance, Citizen Protection, Leadership Protection, Property Protection, Substance Control, and Crime Prevention.	• Percent supply of illegal drugs in the United States
	• Extent to which outcomes related to International Affairs and Commerce are achieved	• Outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Foreign Affairs, International Development and Humanitarian Aid, and Global Trade.	•

[12] These examples are drawn from current indicators in agencies' FY 2004 Strategic Plans and selected PART evaluations. PRM version 1.0 will include more examples of outcome and intermediate-outcome oriented indicators.

[13] These indicators align with the draft BRM version 2.0 and will be revised as the BRM is revised.

Measurement Category	Indicator	Definition	Examples[12]
	• Extent to which outcomes related to Litigation and Judicial Activities are achieved	• Outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Judicial Hearings, Legal Defense, Legal Investigation, Legal Prosecution and Litigation, and Resolution Facilitation.	•
	• Extent to which outcomes related to Correctional Activities are achieved	• Outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Criminal Incarceration and Criminal Rehabilitation.	• Percent of offenders treated by the Residential Substance Abuse Treatment program arrested within one year of release
	• Extent to which outcomes related to Education are achieved	• Outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Elementary, Secondary, and Vocational Education, Higher Education, and Educational and Cultural Institutions.	• College completion rate of low-income college students who participant in the Trio Student Support Services program.
	• Extent to which outcomes related to Energy are achieved	• Outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Energy Supply, Energy Conservation and Preparedness, and Energy Resource Management.	• Amount of natural gas in the United States that can be made available to the market
	• Extent to which outcomes related to Health are achieved	• Outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Illness Prevention, Immunization Management, Public Health Monitoring, Health Care Services, and Consumer Health and Safety.	• Number of cases of vaccine-preventable diseases in the U.S.
	• Extent to which outcomes related to Transportation are achieved	• Outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Ground Transportation, Water Transportation, Air Transportation, and Space Operations.	• Rate of highway-related crashes
	• Extent to which outcomes related to Natural Resources are achieved	• Outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Water Resource Management, Conservation and Land Management, Recreational Resource Management and Tourism, and Agricultural Innovation and Services.	• .Number of overfished stocks out of 287 major stocks

Measurement Category	Indicator	Definition	Examples[12]
	• Extent to which outcomes related to Environmental Management are achieved	• Outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Environmental Monitoring and Forecasting, Environmental Remediation, and Pollution Control.	• Number of acres of wetlands enhanced or restored through voluntary agreements to help improve fish and wildlife populations
	• Extent to which outcomes related to Disaster Management are achieved	• Outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Disaster Monitoring and Prediction, Disaster Preparedness and Planning, Disaster Repair and Restore, and Emergency Response.	• Dollar value (estimated) of disaster and property loss avoided
	• Extent to which outcomes related to Community and Social Services are achieved	• Outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Homeownership Promotion, Community and Regional Development, Social Services, and Postal Services.	• Number of worst-case needs households in the U.S. (households with incomes below 50 percent of the local median income, who pay more than half of their income in rent or live in poor quality units).
	• Extent to which outcomes related to General Science & Innovation are achieved	• Outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Scientific Innovation, Space Flight Innovation, and Technical Innovation.	•
	• Extent to which outcomes related to Economic Development are achieved	• Outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Business and Industry Development, Intellectual Property Protection, and Financial Sector Oversight.	• Number of jobs created or retained in distressed communities as a result of Economic Development Administration investments
	• Extent to which outcomes related to Income Security are achieved	• Outcome indicators identified through GPRA, PART assessments, or other frameworks that align with General Retirement and Disability, Unemployment Compensation, Housing Assistance, Food and Nutrition Assistance, and Farm Income.	•
	• Extent to which outcomes related to Workforce Management are achieved	• Outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Training and Employment, Labor Rights Management, and Worker Safety.	• Number of workplaces that experienced a significant reduction in injuries following OSHA intervention.

Measurement Category	Indicator	Definition	Examples[12]
Support Delivery of Services	• Extent to which intermediate outcomes related to Legislative Relations are achieved	• Intermediate outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Legislative Tracking, Legislative Testimony, and Proposal Development	•
	• Extent to which intermediate outcomes related to Public Affairs are achieved	• Intermediate outcome indicators identified through GPRA, PART assessments, or other frameworks that align with	•
	• Extent to which intermediate outcomes related to Regulatory Creation are achieved	• Intermediate outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Policy and Guidance Development, Public Comment Tracking, Regulatory Creation, and Rule Publication.	•
	• Extent to which intermediate outcomes related to Planning and Resource Allocation are achieved	• Intermediate outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Budget Formulation, Capital Planning, Enterprise Architecture, Project Planning, Strategic Planning, Budget Execution, and Workforce Planning.	•
	• Extent to which intermediate outcomes related to General Government are achieved	• Intermediate outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Central Fiscal Operations, Legislative Functions, Executive Functions, General Property and Records Management, Central Personnel Management, and Tax Collection.	• Percent of individual tax returns filed electronically
	• Extent to which intermediate outcomes related to Controls and Oversight are achieved	• Intermediate outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Corrective Action, Program Evaluation, and Program Monitoring.	•
	• Extent to which intermediate outcomes related to Revenue Collection are achieved	• Intermediate outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Debt Collection, User Fee Collection, and Federal Asset Sales.	•
	• Extent to which intermediate outcomes related to Information Lifecycle Management are achieved	• Intermediate outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Information Collection, Record Retention, and Information Sharing.	•

Measurement Category	Indicator	Definition	Examples[12]
	• Extent to which intermediate outcomes related to Internal Risk Management and Mitigation are achieved	• Intermediate outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Contingency Planning, Continuity of Operations, and Service Recovery.	•
Management of Government Resources	• Extent to which intermediate outcomes related to Supply Chain Management are achieved	• Intermediate outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Goods Acquisition, Inventory Control, Logistics Management, and Services Acquisition.	•
	• Extent to which intermediate outcomes related to Administrative Management are achieved	• Intermediate outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Facilities, Fleet, and Equipment Management, and Help Desk Services, Security management, Travel, and Workplace Policy Development and Management.	•
	• Extent to which intermediate outcomes related to Human Resource Management are achieved	• Intermediate outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Advancement and Awards, Benefits Management, Labor Management, Payroll Management and Expense Reimbursement, Resource Training and Development, Security Clearance and Management, and Staff Recruiting and Employment.	• Percent of agency leadership who report that OPM's human capital resources enabled them to develop and maintain the workforce needed to meet their missions.
	• Extent to which intermediate outcomes related to Financial Management are achieved	• Intermediate outcome indicators identified through GPRA, PART assessments, or other frameworks that align with Accounting, Budget and Finance, Payments, Collections and Receivables, Asset and Liability Management, and Reporting and Information.	•
	• Extent to which intermediate outcomes related to Technology Management are achieved	• Intermediate outcome indicators identified through GPRA, PART assessments, or other frameworks that align with System Development, Lifecycle/Change Management, System Maintenance, and IT Infrastructure Maintenance.	•

Measurement Category	Indicator	Definition	Examples[12]
Financial	• Cost per outcome achieved	• The cost of achieving the relevant outcome or intermediate outcome. This can vary by the type of outcome or the number of outcomes.	•

A.II. Customer Results Measurement Area

Measurement Category	Indicator	Definition
Customer Satisfaction	• # and/or % of customers satisfied	• The number or percent of customers of the relevant process who report they are satisfied with the services or products received. This can vary by type of product or service and by attribute, such as quality, timeliness, or courtesy.
	• # and/or % of customers retained	• The number or percent of customers of the relevant process who continue to receive products or services.
	• Ratio of total # of complaints to total number of customers	• The total number of complaints received from customers compared to the total number of customers receiving products or services.
Service Coverage	• # of new customers as % of total customers	• The number of new customers within a given time period divided by the total number of customers at the end of the time period.
	• % of eligible customers serviced	• The number of customers that receive products or services as a percent of the total population of potential customers. This can also be defined as "market share."
	• # of visitors per unit of time	• The number of visitors to the relevant web-site or physical location per hour, day, week, month, quarter, or year.
	• # and/or % of products or services consumed by customers	• The number or percent of total products or services produced that are used by customers.
Timeliness & Responsiveness	• Average initial response time to customer inquiries	• The total time taken to respond to customer first inquiries divided by the total number of inquiries. This can vary by the nature of the inquiry and the method of communication, such as telephone, e-mail, or in-person.
	• Average time to resolve customer inquiries by type of inquiry	• The total time taken to satisfactorily resolve customer inquiries divided by the total number of inquiries. This can vary by the nature of the inquiry and the method of communication, such as telephone, e-mail, or in-person.
	• Average time between request and fulfillment	• The total time taken to provide customers with products or services measured from their initial request for the product or service divided by the total number of requests.
	• # and/or % of products or services delivered within time standard	• The number or percent of products or services provided to customers within the pre-determined time standard (if available).

Measurement Category	Indicator	Definition
	• Average time or $ savings per customer	• The total time needed to obtain products or services without using the relevant initiative or process compared to the total time needed with using the initiative or process. This time saving is then divided by the total number of customers. This time saving can then be monetized is desired.
Service Quality	• # and/or % of products or services delivered accurately or without error	• The number or percent of products or services that are provided to customers that meet pre-determined quality standards.
	• # and/or % of products or services that meet customer requirements or expectations	• The number or percent of products of services that meet pre-determined customer specifications.
	• # and/or % of customer inquiries resolved on first contact	• The number or percent of inquiries by customers that are successfully resolved or answered the first time the customer makes contact.
	• Average # of contacts to resolve an inquiry	• The total number of inquiry-related contacts by customers divided by the total # of customers making inquiries.
Service Accessibility	• # and/or % of products or services accessed	• The number or percent of products or services that customers use
	• # and/or % of products or services available	• The number or percent of products or services that are available for customers to access
	• # of access channels or entry points available	• The number of means through which customers can obtain products or services. These can include the telephone, Internet, wireless communications, paper-based forms, or in-person visits.
	• # of hours per day that products or services are available	• The number of hours each day in which end-customers can either obtain products or services or obtain assistance.
	• Extent to which products or services can be ordered or obtained through the Internet or self-service	• The degree to which customers can order or obtain products or services without assistance. This can include the percent of total products or services available through the Internet or telephone.
	• # of sources, or locations a customer must visit, or contacts a customer must make, to obtain a product or service	• The number of separate sources or locations a customer must use to obtain products or services. This can be referred to as "one-stop shopping."

A.III. Processes And Activities Measurement Area

Measurement Category	Indicator	Definition
Financial	• Extent to which federal-wide financial management measures are achieved	• The degree to which critical financial measures are achieved, including: reconciled/unreconciled cash balances; suspense clearing; delinquent accounts receivable from public; electronic payments; percent of non-credit-card invoices paid on time; interest penalties paid; travel card delinquency trends; and/or purchase card delinquency trends.
	• $ per unit of products produced or services provided	• The total costs associated with producing products or services divided by the total number produced. These can include interim work products or process steps and end products or process steps.
	• Ratio of FTEs to operating $	• The number of Full-Time Equivalents associated with the relevant process compared to the total operating costs associated with the process. Operating costs can be defined as Total Direct Costs + Total Indirect Costs.
	• Ratio of technology $ to operating $	• The total costs associated with technology compared to the total operations costs associated with the process. Operating costs can be defined as Total Direct Costs + Total Indirect Costs.
	• Ratio of Direct to Indirect Costs	• The total direct costs compared to the total indirect costs.
	• Comparison of planned versus actual expenditures	• The total actual expenditures associated with the relevant process subtracted from total planned expenditures.
	• Operating $ associated with process	• The total costs associated with the relevant process.
	• $ savings and / or $ avoidance	• The dollars that would have been spent but were not. These would generally be attributable to the relevant initiative or process.
Productivity & Efficiency	• Total # of products produced, activities performed, or services provided per relevant unit of time	• The total number of products or services produced per hour, day, week, month, quarter, or year.
	• # of products produced or services provided per FTE	• The total number of products or services produced per hour, day, week, month, quarter, or year divided by the number of relevant Full-Time Equivalents. This measure can also be defined in the reverse, using the relevant Full-Time Equivalents divided by the total number of products or services.
	• % of available resources used	• The amount of resources (e.g. storage capacity or Full-Time Equivalents) utilized divided by the total amount of resources or capacity available.
	• # and/or % improvement or reduction	• The number or percent improvement or reduction to products, services, or other characteristics or attributes (e.g. reduction in the number of cases that are backlogged).

Measurement Category	Indicator	Definition
	• # and/or % of products or services that are electronic	• The number or percent of any products or services, either produced through the relevant process or provided to the relevant process, that are conducted through the Internet or other electronic media, such as CDs.
Cycle Time & Resource Time	• Time to produce, create, and deliver products or services	• The time to complete the relevant process step(s) to produce or deliver products and services.
	• Ratio of total elapsed cycle time to total wait time	• The total cycle time to produce a product or service compared to the total time within the process where value is not being added. This can also be referred to as how long the product or service "waits" in the process before being moved to the next phase or provided to the customer.
	• Comparison of planned versus actual schedules	• The total actual time associated with the relevant process subtracted from total planned time.
Quality	• % of products or services provided effectively or without errors	• The number of products of services produced that meet requirements divided by the total number of products or services produced. This can also be referred to as the error rate and can be measured for interim and final outputs or process steps.
	• Ratio of total number of process-specific complaints to total number of process customers	• The number of complaints customers make about a process, product, or service compared to the total number of relevant customers. This can vary by product or service type or by interim or final outputs or process steps.
Management & Innovation	• # and/or % of desired customers or organizations participating in process	• The number or percent of entities that are involved in or participating in the relevant process. This participation can vary by extent, quality, or attribute (e.g. meet pre-determined criteria or requirements) that is important to the process.
	• % of processes for which clearly defined policies and procedures exist	• The number of relevant processes that have documented policies and procedures divided by the total number of relevant processes.
	• # of applications or systems required to conduct process	• The number of separate IT systems or applications that are needed to conduct the relevant process.
	• Extent compliance with applicable requirements	• The degree to which the process complies with some or all applicable mandates and requirements. These include laws, regulations, policies, procedures, or other process or organizational requirements. This can be assessed through targeted compliance audits.
	• Extent to which policies and procedures for process are complied with	• The degree to which relevant people, technology, or other fixed assets comply with applicable process mandates and requirements. This can be assessed through compliance or use rates.
	• # of unidentified risk events	• The number of risk events that were not identified in relevant risk management and project management plans or process procedures.

Measurement Category	Indicator	Definition
	• Extent to which knowledge is captured and shared	• The degree to which procedures to capture, share, and communicate relevant intellectual capital or information exist and are implemented throughout the organization. This can be assessed through targeted evaluations.

A.IV. People Measurement Area

Measurement Category	Indicator	Definition
Employee Satisfaction & Work Life Quality	• # and/or % of employees satisfied	• The number or percent of relevant employees who report they are satisfied with various aspects of work life. These aspects can include their tasks and processes, salary and benefits, physical surroundings, or growth and learning.
	• # and/or % of workplace injuries	• The number or percent of injuries that occur in the workplace. These can vary by the type of job or injury and the specific location the injury occurred.
	• # and/or % of employee grievances filed	• The number or percent of relevant employees who file formal grievances.
	• # and/or % of employee absenteeism	• The number or percent of employees who are absent from work more than a pre-determined limit defining problematic absenteeism.
Recruitment & Retention	• # and/or % of employee turnover per average length of service	• The number or percent of employees who leave the organization per the average length of time those employees have served the organization.
	• Average length of service	• The total months or years employees serve the organization divided by the number of employees.
	• # and/or % of employees eligible for retirement	• The number or percent of employees who meet or will meet within a given timeframe the pre-determined criteria to retire from the organization.
	• # and/or % of total positions unfilled	• The number or percent of employee positions that are vacant.
	• Average time to fill unfilled positions	• The total time to fill vacant positions divided by the number of vacant positions. These vacancies can be categorized by the type of position.
Employee Development	• Training dollars spent per FTE	• The total dollars spent for training and education divided by the total number of Full-Time Equivalents. This can vary by type of training (e.g. work-related or general educational advancement).
	• $ and/or % of budget dedicated to employee training	• The cost or percent of the total operating costs spent for employee training or education.
	• # and/or % of staff trained by skill or competency area	• The number or percent of employees that have received training in a relevant skill set or competency area.

Measurement Category	Indicator	Definition
	• Level of workforce proficiency or competency in functional skills and/or using technical tools	• The extent to which relevant employees exhibit the relevant functional skills or can use the relevant technical tools.
Employee Ratios	• # and/or % of employees by functional area or competency	• The number or percent of employees associated with a relevant process or function or that possess a relevant skill set or competency.
	• Ratio of management staff to other employees	• The number of employees who are classified as managers or supervisors compared to the number of employees who have minimal or no managerial or supervisory responsibility.
	• Ratio of mission/citizen-facing employees to internal and support employees	• The number of employees with direct, mission-related responsibilities compared to the number of employees with internal or support-related responsibilities.
	• Ratio of federal employees to contract employees	• The number of federal employees compared to the number of individuals employed through contracts.

A.V. Technology Measurement Area

Measurement Category	Indicator	Definition
Financial	• IT $ per unit of end product or service	• The total IT costs associated with the relevant process divided by the number of products or services produced.
	• IT licensing or support $ as % of total IT costs	• The total IT licensing or other support costs divided by the total IT costs.
	• IT $ as % of operating costs	• The total IT costs divided by total operating costs. This can be compared to relevant industry or peer averages.
Quality & Efficiency	• Extent to which intended functionality or capabilities are provided	• The degree to which the IT provides the technical functionality or capabilities as defined in requirements documents. The FEA Services Component Reference Model (SRM) describes these capabilities.
	• % of consolidated or interoperable IT resources across organizational units	• The number of applications or systems that either can be or are linked to or consolidated with other applications or systems divided by the total number of relevant applications or systems. These interoperable segments of IT are referred to as "components" and are described in the FEA SRM.
	• # of access points or channels used to access IT	• The number of means through which other IT, end-users, or customers can access an application or system. These can include web-based access and wireless communications.
	• # of variations from standards detected by review and audit	• The number of applications or systems that do not meet pre-determined IT standards.
	• # of concurrent users supported	• The number of simultaneous end-users an application or system can provide service to.

Measurement Category	Indicator	Definition
Information & Data	• % of data or information shared across organizational units	• The total amount of relevant data or information that is electronically shared and re-used by more than one organization divided by the total amount of data or information available.
	• % of standardized data elements	• The number of relevant data elements for which standards and definitions exist divided by the number of data elements.
	• # of applications that share data used by the application or system	• The number of applications that are linked to and share information with a relevant application that collects data.
	• Extent to which data or information is current	• The degree to which data and information is up-to-date and current as measured against pre-determined requirements.
	• Extent to which data or information is complete	• The degree to which data and information is whole and complete as measured against pre-determined requirements.
	• # and/or % of data errors	• The number or percent of data or information that is incorrect. This can vary by the type of data element.
Reliability & Availability	• % of IT availability	• The time systems or applications are available to end-users divided by the total time in the relevant time period.
	• % of unscheduled IT downtime	• The unplanned time systems or applications are not available to end-users divided by the total time in the relevant time period.
	• % of unscheduled IT maintenance	• The amount of unplanned system or application maintenance divided by the total amount of maintenance. This amount can be measured in cost or the number of separate maintenance activities.
User Satisfaction	• # and/or % of IT users satisfied	• The number or percent of end-users of the application or system who report they are satisfied with the application or system. This can vary by the capabilities, functionality, usability, or availability of the system, and its overall perceived contribution to performance. User surveys and focus groups can be used to determine satisfaction levels.
	• # and/or % of IT users using IT for required or intended purpose	• The number or percent of end-users who report they use the application or system as intended. User surveys, focus groups, and targeted observations can be used to determine whether the application or system is being used as intended.

A.VI. Other Fixed Assets Measurement Area

Measurement Category	Indicator	Definition
Financial	• Asset $ per product or service	• The total costs associated with the asset divided by the relevant products or services produced per day, week, month, quarter, or year.
	• Average repair $ per square foot or unit	• The total repair costs per square foot or unit of the asset divided by the number of repairs.
	• Maintenance $ per square foot or unit	• The total maintenance costs per square foot or unit of the asset.
	• Current value of asset	• The dollar value of an asset measured through its current market value or other recognized practice. This can include current value or book value.
Quality, Maintenance, & Efficiency	• # and/or % of users satisfied with asset	• The number or percent of end-users of the asset who report they are satisfied with the asset.
	• Maintenance time per square foot or unit	• The total maintenance time per square foot or unit of the asset.
Security & Safety	• Extent to which asset is in compliance with relevant laws and health and safety codes	• The degree to which the relevant asset complies with applicable statutes, regulations, and codes. This can include the Americans with Disabilities Act and local building ordinances.
	• # of exits	• The number of exists within a facility or vehicle.
	• Extent to which asset is subject to security patrol or monitoring	• The degree to which the relevant asset is patrolled by security guards or agents or monitored by security cameras or other surveillance methods.
	• # of security breach events or violations	• The number of security incidents that occur in or indirectly impact the asset.
	• Average response time to security breach events	• The total time to respond to security incidents divided by the number of security incidents.
	• # and/or % of security or safety devices per unit	• The number or percent of security devices, such as metal detectors, or safety devices, such as portable defibrillators, per relevant unit. These units can include entrances to a building, employees, or square feet.
Utilization	• % of asset capacity utilized	• The capacity of the asset used divided by total potential asset capacity.
	• Employees per square foot or unit	• The number of employees per square foot or unit of the asset.
	• Rate of vacancy or absorption	• Number of vacant units divided by total units available.

APPENDIX B:
The PRM is a Tool and Resource to Help Agencies Meet Requirements and Make Needed Improvements

This Appendix demonstrates that the PRM is a tool and resource to help agencies meet a number of existing legislative and OMB requirements for IT management. The PRM will also contribute to some of the more systematic improvements needed in performance management and measurement.

B.I. How The PRM Can Help Agencies Meet Existing Requirements

Legislative and OMB Requirements	How PRM Will Help Agencies Meet Requirement
E-Government Act of 2002	The PRM will help agencies collaborate and develop consistent performance measures that demonstrate progress towards results and assess customer service, productivity, and innovation.
Clinger-Cohen Act of 1996	The PRM can help agencies make IT investment decisions based on how well IT contributes to programs through reduced costs, improved productivity, and increased customer satisfaction.
Government Performance and Results Act of 1993	The PRM framework can help improve and further relate outcome and output measures in Strategic and Annual Plans and Reports. Performance by function will facilitate producing the required government-wide Performance Plan.
Chief Financial Officers Act of 1990; Government Management Reform Act of 1994; Federal Financial Management Improvement Act of 1996	The PRM includes financial indicators, which are consistent with and rely upon the requirements to provide timely, reliable, useful, and consistent financial information. Progress towards these indicators will inform decision-making.
President's Management Agenda (Budget and Performance Integration and Expanding E-Government)	The PRM framework can help to refine the relationship between outcomes, outputs and the processes or strategies used to produce them, and the inputs or resources used. This creates more robust information to use in budget decisions. The PRM can help articulate how E-Government initiatives and other technology initiatives contribute to improved organizational performance.
OMB Circulars A-11 and A-130	The PRM will help articulate how inputs (e.g. technology or other fixed assets) contribute to outcomes and supporting mission requirements.

B.II. How The PRM Can Contribute To Needed Improvements

Improvement Needed	How PRM Can Contribute to Improvement
Overall weakness in performance management and measurement[14]	Progress towards PRM indicators can provide enhanced performance information to support management decision-making.
Limited articulation of how inputs contribute to outcomes[15]	PRM measurement areas incorporate and attempt to measure the critical cause and effect relationships from inputs (e.g. Technology) to outcomes (e.g. Business Results).
Limited collaboration around functional or crosscutting programs[16]	The PRM will help identify a common or similar set of performance indicators to drive improvements across traditional organizational boundaries (which also may span the federal, state, local, or private sectors).
Half of programs assessed by the Program Assessment Rating Tool (PART) received rating of "results not demonstrated" and 20 percent were "adequate" or "ineffective"[17]	Progress towards PRM indicators will provide additional performance information to include in PART evaluations. The PRM can be used as a resource to guide improvements in lower-scoring PART programs with common or similar missions.
More than half of major IT systems on OMB's "At-Risk" list	The PRM can be used to identify performance indicators for technology and articulate the contribution of technology to outputs and outcomes.

[14] "Government at the Brink," Committee on Governmental Affairs, U.S. Senate. June 2001.

[15] "Major Management Challenges and Program Risks: A Governmentwide Perspective," U.S. General Accounting Office. January 2003.

[16] "Results-Oriented Management: Agency Crosscutting Actions and Plans in Border Control, Flood Mitigation, and Insurance, Wetlands, and Wildland Fire Management," U.S. General Accounting Office. December 20, 2002.

[17] "Analytical Perspectives, Budget of the United States Government, Fiscal Year 2004," U.S. Office of Management and Budget. February 3, 2003.

APPENDIX C:
Description of Other FEA Reference Models

This Appendix provides information about the other reference models within the FEA reference model framework and their relationship to the PRM.

C.I. The Business Reference Model (BRM)

The Business Reference Model (BRM) is a function-driven framework that describes the Lines of Business and Sub-Functions performed by the federal government independent of the agencies that perform them. The model provides a common understanding of the Federal Government's business for Agencies, oversight bodies, IT decision makers, and other stakeholders; and facilitates the identification of cross-agency opportunities and redundancies.

Of all the FEA reference models, the PRM is most closely tied to the BRM. The BRM provides a functional description of what Lines of Business and Sub-functions agencies currently conduct. Over time, the PRM will be applied to BRM Sub-functions to assess how well agencies conduct them. How the PRM is "operationalized" will vary depending on whether the Line of Business or Sub-function is in Level 1 of the BRM (e.g. Border Security) or in Level 3 of the BRM (e.g. Goods Acquisition). Level 2 of the BRM provides the first starting point to identify the outputs produced by Processes and Activities.

C.II. The Service Component Reference Model (SRM)

The Service Component Reference Model (SRM) will provide a business-driven framework for identifying and classifying service components across the federal government's Lines of Business and Sub-Functions, and with respect to how these capabilities support Federal business and performance objectives. The model will aid in reducing duplicative Federal investments by providing a framework by which Agencies can leverage existing services and components, and will support the rapid assembly of business solutions.

The SRM can be used to identify collaboration opportunities around services and applications. If capitalized on, these opportunities will lead to performance improvements as measured through the PRM, such as reduced costs, reduced time to implement services and applications, and ultimately improvements in processes and activities and results.

C.III. The Data Reference Model (DRM)

The Data Reference Model (DRM) will help characterize the data and information that support Federal program and business line operations. The model will be used to help describe the type of interaction and exchanges that occur between the federal government and its various customers, constituencies, and business partners. The model will help Agency managers and staff to better understand, locate, and access the data and information that is required to support a program or business line.

Data required to conduct business should be chosen in the specific context of the performance improvements having that data can help the business make. Prudent data management is also a key strategy to improving performance through the PRM.

C.IV. The Technical Reference Model (TRM)

The Technical Reference Model (TRM) will describe the service layers, standards and platforms that comprise the federal government's technology infrastructure. The model will assist in the identification of processes, programs and systems that can be made more efficient through cross-Agency collaboration, and describe the components required to move Federal activities into the web service-enabled business transaction environment.

Technology decisions will need to be made in the specific context of the performance improvements they will contribute to as articulated through the PRM.

APPENDIX D:

Agencies that Align with the Priority BRM Lines of Business and Sub-functions and 24 Presidential E-Government Initiatives

This Appendix lists the Priority Lines of Business and Sub-functions for FY 2004 and the 24 E-Gov initiatives. The agencies that align with each are also presented.

D.I. FY 2004 Priority BRM Lines of Business and Sub-functions

BRM Line of Business	BRM Sub-function(s)	Agencies
Public Health	Public Health Monitoring	USAID, USDA, Commerce, HHS, Transportation, EPA
Social Services	Monetary Benefits	Energy, HHS, DOL, State, FEMA, SSA, VA
Research & Development & Science	Data & Statistics Development	Commerce, Education, Energy, HUD, DOI, DOJ, DOL, State, Transportation, Treasury, EPA, GSA, NARA, SBA, SSA
Law Enforcement	Criminal Investigation and Surveillance	Commerce, DOI, DOJ, State, Transportation, Treasury, EPA, GSA
Human Resources	All	All
Financial Management	All	All

D.II. 24 Presidential E-Government Initiatives

E-Gov Initiative	Managing Partner	Partners
---Government to Citizen---		
Recreation One-Stop	DOI	USDA, Corp of Engineers, TVA, DOT, and Smithsonian
GovBenefits	DOL	SSA, VA, HUD, USDA, STATE/INS, HHS, FEMA, DOE, and ED
Online Access to Loans	ED	SBA, HUD, VA, USDA, FEMA, HHS, and FDIC
USA Services	GSA	DOL, SSA, VA, HHS, ED, USDA, FEMA, and SBA
IRS Free File	Treasury	None
---Government to Business---		
On-line Rulemaking Management	EPA	DOL, EPA, USDA, GSA, HHS, and FCC
Expanding Electronic Tax Filing for Business	Treasury	DOL, EPA, USDA, GSA, HHS, and FCC
Federal Asset Sales	GSA	VA, Treasury, FDIC, HUD, SBA, DOD, and ED
International Trade Process Streamlining	DOC	Treasury/Customs, DOJ, IE Bank, and participants in Int. Trade Database
Business Compliance One-Stop	SBA	DOL, EPA, IRS, DOT, EEOC, DOC, FERC, and SEC
Consolidated Health Informatics	HHS	
---Government to Government---		
Geospatial Information One-Stop	DOI	FEMA, NASA, DOC, HUD, EPA, DOT, NIMA, and USDA
e-Grants	HHS	DOL, NSF, DOD/ONR, ED, HUD, DOT, and DOJ

E-Gov Initiative	Managing Partner	Partners
Disaster Management	FEMA	SBA, DOC/NOAA, USDA, HHS, and HUD
Wireless Public Safety Interoperable Communications-Project SAFECOM	DOJ	Treasury, USDA/Forest Service, DOC/NTIA, DOD, and DOI
e-Vital	SSA	VA, HHS, OPM, USDA, DOD, and State/INS
---Internal Efficiency and Effectiveness---		
e-Training	OPM	DOL, DOT, DOD, and GSA
Recruitment One-Stop	OPM	DOL, DOD, EPA, DOI, NASA, and DOT
Enterprise Human Resources Integration	OPM	DOL, HHS, EPA, NASA, DOI, Treasury, VA, GSA, HUD, and USDA
e-Clearance	OPM	DOL, DOD, DOE, Treasury, VA, and DOC
e-Payroll	OPM	DOL
e-Travel	GSA	
Integrated Acquisition Environment	GSA	DOL, DOD, DOC, DOI, SBA, and USDA
e-Records Management	NARA	GSA, DOE/NRC, DOC/NOAA, DOC/PTO, and VA
---Cross-Cutting---		
e-Authentication	GSA	DOD, Treasury, DOJ, USDA/NFC, PTO, NASA, and DOC/NIST